Acute Psychological Impact of Disaster and Large-Scale Trauma: Limitations of Traditional Interventions and Future Practice Recommendations

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Abbreviations:
CISD = critical incident stress debriefing
CISM = critical incident stress management
PTSD = post-traumatic stress disorder
PD = psychological debriefing
PTE = potentially traumatic event
RCT = randomized controlled trials

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Abstract

Nearly everyone will experience emotional and psychological distress in the immediate aftermath of a disaster or other large-scale traumatic event. Although extremely upsetting and disruptive, the reaction is understood best as a human response to inordinate adversity, which in the majority of cases remits over time without formal intervention. Nevertheless, some people experience sustained difficulties. To prevent chronic post-traumatic difficulties, mental health professionals provide early interventions soon after traumatic exposure. These interventions typically take the form of single-session debriefings, which have been applied routinely following disasters. The research bearing on these traditional forms of early crisis interventions has shown that, although well received by victims, there is no empirical support for their continued use. However, promising evidence-based, early interventions have been developed, which are highlighted. Finally, traumatic bereavement and complicated grief in survivors of disasters, an area largely neglected in the field, is discussed.

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Introduction

Acts of terrorism, natural disasters, and other large-scale, traumatic events typically result in tremendous loss of life, physical injuries, and property damage. Survivors of such tragedies invariably experience significant emotional and psychological distress in the immediate days and weeks that follow. Immediate distress is not necessarily a sign of pathology, but is a normal human emotional response to tremendous adversity and loss. Nevertheless, post-traumatic anguish and distress can be overwhelming and incapacitating, which affects attempts to cope, manage, and plan for the challenges that lie ahead. Mental health professionals are highly motivated to alleviate this kind of suffering and employ interventions delivered soon after the event in an effort to prevent chronic distress. Although early mental health intervention is indicated for some and is very well-intentioned, if the procedures do not have proven efficacy, they should not be employed. Because of the tremendous desire to help in any way possible, traditional models of early intervention, such as critical incident stress debriefing (CISD), have been widely marketed and implemented without sufficient empirical support. Thus, many individuals may not receive the help they need or their precious time or psychological resources might be wasted. Also, existing early interventions for trauma survivors have focused on personal life threat, hyperarousal, and anxiety, failing to sufficiently conceptualize and target traumatic bereavement, which are highly prevalent in the aftermath of catastrophic events.

This paper describes the psychological impact of large-scale trauma including the modal course of distress. Then, existing early psychological interventions are reviewed as well as the research on the efficacy of these interventions. Empirically-informed recommendations are provided for intervening with recent survivors with an emphasis on traumatic grief reactions and implications for treatment.

Impact of Trauma and Immediate Needs of Survivors

Immediately following a major event, victims typically report symptoms ranging from intense fear, anxiety, and despair to shock and disbelief.[1] This considerable emotional distress is compounded by legitimate concerns about safety, shelter, and significant financial consequences of the event. Resolution of these pragmatic concerns may be a necessary precondition to an individual's capacity to benefit from early interventions addressing her/his psychological and emotional distress. Indeed, safety planning and emergency stabilization should precede any efforts to address psychological or emotional sequelae; victims may need emergency housing, medical attention, financial assistance, and so on.[2]

The post-traumatic stress disorder (PTSD) is an anxiety disorder that may develop following exposure to life-threatening or other inordinately distressing events. A diagnosis of PTSD requires that an individual experiences intense fear, helplessness, and horror in response to such an event, and that he or she experience pronounced symptoms of re-experiencing the traumatic event (e.g., nightmares or intrusive thoughts), avoidance of trauma-reminiscent cues and emotional numbing, and symptoms of increased arousal (e.g., exaggerated startle response or hypervigilance). Finally, these symptoms must be present for at least one month following the traumatic event, and must be of sufficient intensity to impair social, occupational, or other important domains of functioning.[3] Although most trauma victims experience pronounced emotional distress immediately following a traumatic event, the majority of these individuals will not go on to develop chronic forms of psychopathology such as PTSD, even if they do not receive formal, secondary prevention intervention. For instance, on average 8-9% of trauma victims develop chronic PTSD.[4,5] For most of them, the adage "time heals all wounds" is an apt characterization of post-traumatic adjustment. However, large-scale events such as the terrorist attacks of 11 September 2001 can impact thousands of people. Accordingly, large numbers of individuals may go on to develop chronic distress following such an event, despite the fact that most victims can be expected to exhibit tremendous resiliency. In light of this fact, effective, early interventions for trauma are critical.

Early Interventions for Disaster and Trauma Victims

The modal form of intervention that has been administered in the acute post-trauma context is psychological debriefing (PD). Psychological debriefing is not a specific intervention, but rather an umbrella term that describes any single-session intervention occurring soon after the traumatic event, typically within hours to a few days, designed to allow victims to recount the event and their reactions in the presence of other survivors or mental health professionals; such an intervention also may include an educational component designed to normalize emotional reactions and distill adaptive coping strategies.[6,7] Critical Incident Stress Debriefing (CISD) is the form of early intervention most routinely administered.[8]

The primary goals of CISD are: (1) to educate individuals about stress reactions and ways of coping with them; (2) to instill messages about the normality of reactions to potentially traumatic events (PTE); (3) to promote emotional processing and sharing of the event; and (4) to provide information about further intervention if it is requested by the participant. All individuals exposed to the critical incident are invited to participate in a 3-4 hour session to review the incident. This session typically occurs within a few days of the event. Participants are first asked to recount the event in a factual manner. This recounting of the event is followed by an opportunity to share thoughts and cognitive reactions that occurred during the event. Finally, emotional reactions are shared, and these reactions are normalized by the facilitator.

There are noteworthy conceptual and ethical issues regarding the rationale for the application of CISD and its form of implementation. Critical incident stress debriefing is not presented as a clinical intervention or "treatment", but rather as an opportunity for individuals exposed to extreme circumstances (i.e., critical incidents) to share their responses with CISD team members—at least one of whom is familiar with the culture of the particular work system or agency. Although CISD purportedly is not designed to be a form of treatment, uncontrolled studies attesting to its efficacy typically focus on its alleged benefit of reducing or preventing PTSD reactions.[9] These factors have led to the standard application of CISD, despite accumulating evidence for its lack of efficacy.[10-12]

Critical incident stress debriefing routinely is administered to emergency services personnel and other professionals whose work entails regular exposure to traumatic events (e.g., law enforcement personnel, disaster workers such as the American Red Cross, firefighters, Emergency Medical Services, and military personnel). Accordingly, CISD purportedly is not intended for "direct" victims of trauma, but instead is designed to be administered to individuals who are "indirectly exposed" to the critical incident (e.g., natural disaster) by virtue of their roles and responsibilities as professional responders. However, this formal distinction between "direct" and "indirect" exposure appears to be rather arbitrary and difficult to delineate. For example, firefighters involved in rescue and recovery operations following the collapse of the World Trade Center buildings experienced personal life endangerment and were exposed to grotesque human remains—events known to result in PTSD in some individuals. Moreover, the distinction is inconsistent with contentions that CISD is capable of reducing the risk for the development of PTSD and long-term distress.[9,13] If "indirectly exposed" persons are not traumatized, PTSD would not be expected to ensue. If,

on the other hand, CISD does prevent PTSD in individuals who otherwise would develop the disorder, the tacit acknowledgement is that "indirectly exposed" individuals, in fact, can be trauma victims.

Exposed personnel are invited to attend CISD regardless of the degree of functional impairment they are experiencing or the degree of the acute symptoms endorsed.[14] As a result, debriefing groups could by comprised of individuals ranging from those wholly unaffected to those severely distressed. The extent to which extremely distressed individuals perceive their reactions to be normalized in such a context is unclear. Relatedly, individuals who may be reluctant to disclose personal information or reactions among coworkers may feel pressured to do so by group expectations or may feel stigmatized if their reactions are dissimilar to those of other group members. In this context, sharing of personal experiences may produce harmful, rather than helpful, consequences.[15] Finally, although the developers of CISD have emphasized that participation should be completely voluntary, the possibility remains that some employers or group leaders may mandate or subtly coerce employees to attend a debriefing session. Some have argued that volunteer status may be affected by work cultures unbeknownst to CISD personnel, and that involuntary participation is unethical if not harmful.[16] Despite the fact that CISD developers have explicitly stated that debriefings should be voluntary, participation may or may not actually be voluntary depending on the mandates or preferences of individual employers.

The greatest criticisms surrounding the continued widespread use of CISD pertain to converging lines of evidence that uniformly call its efficacy into question. Although the components that make up CISD are intuitively appealing, it does not appear to appreciably minimize the likelihood of developing PTSD. As reviewed below, this touted virtue appears to be empirically unjustifiable. Moreover, the lack of evidence supporting the efficacy of CISD is not unique to this particular form of psychological debriefing, but is true of PD generally.

Research on the Effectiveness of PD

A number of published, peer-reviewed studies of PD have suggested that it may be an effective intervention.[13] However, until quite recently only a few randomized, controlled trials have been reported.[17] Accordingly, the studies reviewed by Everly *et al*[13] all suffer from the fundamental problem of lack of random assignment and often, lack of any non-debriefed comparison group, limiting inferences of causality. Self-selection is the norm in these studies, and the majority of these investigations failed to assess individuals prior to the intervention. Accordingly, post-debriefing symptom ratings could reflect the impact of the intervention, but they also could reflect minimal levels of distress experienced by participants irrespective of the intervention. In sum, the majority of studies purporting to document the efficacy of PD are characterized by major methodological limitations, which do not allow for conclusions about the effectiveness of debriefing to be made with confidence.[11,17] Because significant post-traumatic symptom remission over time is the norm, even in the absence of formal intervention, random assignment of participants to PD and no-intervention comparison groups are essential for evaluating the efficacy of these interventions.

Fortunately, randomized controlled trials (RCT) of PD interventions (including CISD) have been conducted, providing better tests of the therapeutic impact of these interventions. Investigators have utilized random assignment and appropriate control groups, and havegathered pre-intervention and long-term follow-up data using psychometrically sound outcome measures and structured clinical interviews.[10,18–22] Psychological debriefing did not evidence superior outcomes relative to no intervention conditions in any of the RCT. As reported elsewhere, the mean symptom improvement across studies of PD and control conditions was nearly identical.[11] In fact, two studies found significantly poorer outcomes among PD participants relative to controls, suggesting that debriefing-based interventions even may be harmful. It should be noted, however, that in one of these studies, the PD condition had significantly higher symptom levels prior to intervention despite randomization.[18] Moreover, this study employed PD with inpatient burn victims, and it is unclear whether this is an appropriate test of PD efficacy given that this intervention has not been advocated for usage in this setting or with this type of population. The other study documenting poorer outcomes among debriefed participants, suffered from marked attrition, so caution should be exercised when interpreting the results of this investigation.[21] It should be noted that these studies do not represent tests of CISD specifically as some forms of debriefing were administered to individuals not groups.[18,20] Also, it is unclear as to whether different outcomes would be expected for debriefing interventions provided to victims of accidents versus disasters or terrorism.

Nevertheless, contrary to earlier claims based on poorly controlled investigations, the findings of several methodologically sound studies of the efficacy of PD have been fairly uniform in documenting that PD appears to be, at best, inert. Typically, PD is well-received by those who participate, which is not surprising. Conceptually, it makes sense that acutely distressed people may attribute their improvement, over time, to an intervention provided shortly after traumatic exposure—especially if such individuals are informed that the intervention is designed to prevent chronic distress. Having received a debriefing-based intervention, individuals cannot know what their course of adjustment may have been without the intervention. Randomized, clinical trials are the only methodologically sound means of answering this question, and these studies consistently have failed to confirm a therapeutic benefit of PD. It is possible that PD may be helpful for some subset of traumatized individuals, but that its blanket application to any or all exposed individuals, irrespective of need, masks such benefits. However, this possibility remains to be empirically tested.

Arguably, in light of these consistent findings, the CISD framework recently has been revised, so that now it is considered to be part of a more comprehensive, Critical Incident Stress Management (CISM) program.[23] The CISM interventions are designed to prepare individuals psychologically prior to dangerous work, to meet the support needs of individuals during critical incidents, to provide CISD as well as delayed interventions, to consult with organizations and leaders, to work with the families of those directly affected by the trauma, and to facilitate referrals and follow-up interventions to address lingering stress disorders. To date, however, there have been no controlled empirical studies of the various components of CISM so it remains to be seen whether CISM improves upon the limitations of traditional single-session, debriefing-based interventions.

Unique Symptoms of Traumatic Bereavement

Most early interventions for trauma have focused on the prevention of chronic PTSD. Clearly, the vast majority of disaster survivors do not develop chronic, debilitating distress following the trauma. Even without formal intervention, most survivors return to pre-traumatic levels of functioning over the course of a few months. Although PTSD is the most prominent psychiatric disorder following exposure to disasters (among the minority of survivors who do not experience symptom remission over time), the nearly exclusive emphasis on trauma as life-threat has led other forms of post-traumatic distress to be relatively ignored. In particular, survivors of disasters and other large-scale traumatic events may be mourning the death of a close friend or relative in addition to experiencing symptoms of distress related to personal life endangerment. The terrorist attacks of 11 September 2001, for instance, resulted not only in personal endangerment of residents of lower Manhattan, but literally thousands of suddenly bereaved individuals who lost close friends and relatives as a result of the attacks.

Those who lose loved ones unexpectedly and tragically (e.g., due to traumatic means such as homicide, suicide, and accident) are faced with a difficult grieving and adaptation process.[24] In the context of most losses, people can prepare emotionally for the death. When individuals lose a loved one unexpectedly, they are at risk for traumatic grief, which is a unique bereavement process and a potential maladaptive mental health outcome.[25] Adaptation to traumatic bereavement varies tremendously, and, remarkably most people return to normal functioning. While several studies have found a relationship between traumatic grief reactions and post-traumatic stress symptoms, and despite evidence that traumatic grief and PTSD represent two distinct taxons, there have been few efforts at specifically targeting grief reactions in individuals bereaved by violent or accidental deaths.[26–29] Typically, traumatic grief and PTSD are that stem from loss.[30]

Although many of the symptoms of traumatic grief resemble those of PTSD, upon closer examination, there are distinct differences that underscore the unique needs of individuals who are traumatically bereaved. First, for those with PTSD, the trauma is an identifiable event in the individual's past, while for individuals with traumatic grief, the event may lack an episodic quality. Instead, the absence of an important other or "separation trauma" results in "separation distress," which is relived intrusively like the re-experiencing symptoms of PTSD.[25] Second, while there appears to be some overlap between traumatic grief and PTSD (e.g., intrusive thoughts), the symptoms actually are quite distinct, as is their source. For example, intrusive thoughts in traumatic grief result from longing for the deceased, and at times may be a source of comfort, while the intrusive thoughts of PTSD are fear-based and involve memories of a horrific event.[28] However, there also is evidence that in addition to longing for the deceased, following homicidal death of a loved one, individuals may experience recurring images of the perceived death scene,[31] focusing on images that highlight the helplessness and terror of the victim.[27] In such cases, these negative intrusive images may predominate, or there can be a mixture of the two types of intrusive thoughts, which arguably could add to the distress of survivors. Furthermore, there is evidence that the avoidance of thoughts or environmental reminders of the trauma typical of individuals with PTSD, does not characterize individuals with traumatic grief and, in fact, individuals with traumatic grief often seek out reminders of the deceased loved one.[28] However, survivors of unexpected or violent death who suffer from a "dual burden" of trauma and bereavement in fact, may avoid reminders of the loved one, especially if these are predominated by images of a gruesome or violent death.[30] Finally, there is evidence that hyperarousal is markedly different in individuals coping with traumatic grief, who may scan the environment for reminders of the deceased rather than for danger, which is typical of individuals with PTSD. Again, individuals who lose a loved one due to homicide may have altered schemas (beliefs, images, concepts) about safety that more closely resemble those of PTSD, and as a result their hypervigilence may differ clinically. Rynearson reported that homicidally-bereaved individuals experienced pervasive fears, exaggerated startle response, and engaged in compulsive behaviors of self-protection of self and family, which is similar to PTSD.[27] Behavioral manifestations included activities directed at retribution (e.g., contacts with police, judicial system), staying at home, avoiding unknown others, and seeking tangible assurances of others' safety.[27]

Additional criteria for traumatic grief include difficulty in acknowledging the death, difficulty in imagining a fulfilling life without the deceased, a shattered world view, and excessive irritability, bitterness, or anger related to the death.[25] Depending on the loved one's mode of death, each of these symptoms has unique implications for treatment. Parents who lose a child to homicide often direct their anger towards the murderer, and often are frustrated with the criminal justice system, whereas parents who lose a child to suicide often feel rejected, abandoned, and con-

fused, and they experience stigma related to the loss.[31,32] Seguin *et al* found that parents who lost a child to suicide experienced more shame than parents who lost children due to a motor vehicle accident.[33] Finally, Lehman *et al* found that individuals who lose a spouse or child in a motor vehicle accident ruminate about the accident and what could have been done to prevent it.[34]

Individuals with more intense grief reactions also have the greatest difficulty finding meaning in or making sense of the loss. Schwartzberg and Halgin emphasize that those who lost loved ones due to the unexpected circumstances of suicide, homicide, or accident, are predisposed to experience greater cognitive disturbances and upheaval compared to individuals with anticipated losses.[35] They suggest three areas of cognitive upheaval following the death of a loved one, that include: (1) the need to make sense of the death; (2) changes in beliefs regarding the self and the world; and (3) cognitive strategies to keep the deceased alive. Making sense of the death may be more complicated for individuals who lost a loved one due to suicide, homicide, or accident. For example, individuals who lost a loved one due to suicide may be preoccupied with self-blame and guilt, causing them to struggle with the meaning of the death. Janoff-Bullman underscores that individuals make sense of the world by adhering to three core beliefs: (1) benevolence of the world; (2) meaningfulness of the world; and (3) self-worth or self-esteem.[36] In the case of losing a loved one to homicide, the world no longer may feel like a safe place. In the case of an accident or suicide, feelings about responsibility may diminish feelings of self-worth and self-esteem of the survivor. Finally, strategies of internalizing the deceased person may become complicated due to intrusive memories of a violent death.

Studies have found a correlation between lack of social support and traumatic grief and existing social supports may be taxed by the loss.[37,38] In a study of families of homicide victims, individuals often expressed feelings of a lack of social support and even of betrayal from existing networks.[39] Individuals often reported being confronted by silence and inappropriate comments and/or suggestions, and many perceived that existing social networks "disappeared", did not care, and "couldn't handle" the death.[39] Conversely, individuals who lost a loved one in a motor vehicle accident reported that communication with others who experienced similar losses was extremely helpful.[38]

Treatment of Survivors of Violent/Accidental Deaths

Although no early interventions for trauma or disaster have been developed with an explicit focus on symptoms of traumatic grief, future early intervention development efforts may be informed by an examination of treatment approaches that have been utilized in treating the more chronic symptoms of traumatic grief. Unfortunately, there are conflicting opinions about what constitutes state-of-the-art treatment for individuals who have lost loved ones due to traumatic means, and few studies have examined the issue empirically. Murphy *et al* conducted a randomized, controlled trial, in which parents who lost their child to homicide, suicide, or accident participated in a 10-week group.[40] The first hour of each group included teaching parents skills falling into the following four categories: (1) active confrontation of problems (e.g., ways to release anger); (2) closure (e.g., writing down thoughts and feelings); (3) respecting differences in mourning; and (4) self-care (e.g., logging positive self-care). The second hour focused on assisting parents in sharing experiences related to the death, helping individuals reframe aspects of the death and its consequences, and receiving emotional support.

The findings indicated that mothers improved on eight of the 10 measures of mental distress, including depression, anxiety, and fear, although fathers improved on less than half of the measures. Furthermore, for both parents, self-esteem, self-efficacy, and positive reinterpretation of events at baseline predicted mental distress up to two years later. For fathers, repressive coping (i.e., actively avoiding thoughts/reminders of the loss) predicted greater mental distress. Although these results seemed encouraging, when compared to the control group, there were no differences on any of the outcome measures (i.e., mental distress, trauma, loss accommodation, physical health, and marital satisfaction). When examined by level of distress, the intervention was beneficial for mothers with higher mental distress and grief at baseline. However, fathers with higher levels of PTSD at baseline did worse than did the fathers in the control group.

Salloum et al conducted a 10-week group intervention study with African-American adolescent survivors of homicide.41 Goals included providing psycho-education about grief and trauma, providing an environment to share thoughts and feelings about deaths, and decreasing PTSD symptoms. Topics included grief education, healthy coping techniques, safety, revenge and anger management, support systems, spirituality, and future goals. Upon completion of the group sessions, there was an improvement in re-experiencing and avoidance symptoms, and there were no significant differences in their level of arousal. Limitations include the lack of randomization and a control group, a large range of time since death (one to 10 years), and the lack of measurement of grief symptoms and other outcome variables other than symptoms of PTSD. A similar 10-session adolescent group intervention study was conducted with incarcerated youths who had experienced a violent death of a friend or family member.[42] Outcome measures included depression, grief, and PTSD symptoms; the authors reported that participants' symptoms significantly decreased in each of these areas. However, limitations include the lack of a control group and random assignment to condition, failure to describe the type of treatment provided (although readers can contact the authors for a treatment manual), small sample size, and limited generalizability.

With respect to individual treatments for grief, Shear et al conducted an uncontrolled, 16 session pilot study of people suffering from traumatic grief, which combined interpersonal therapy for depression with cognitive-behavioral

treatment for PTSD.[43] They reported that both imaginal and in vivo exposure (i.e., vividly imagining and actively exposing oneself to reminders of the loss) was the primary strategy for grief reduction (using audio-taped sessions and hierarchies of distressing cues/reminders), and that interpersonal therapy techniques (i.e., focusing on improving interpersonal relationships and communication skills) were used to help individuals re-engage with others. These authors reported a reduction of grief, depression, and anxiety symptoms, but no long-term outcome data were reported. Study limitations included: (1) the large dropout rate of individuals who lost loved ones due to traumatic means; (2) assumptions that participating individuals experience avoidance as a hallmark symptom of traumatic grief; (3) the older age of completers; and (4) the length of time since the death of the loved one (mean of intervals to therapy was 3 years).

Mawson *et al*, and Sireling *et al*, two teams from the same laboratory, conducted two randomized, non-controlled trials of guided mourning for "morbid grief" (the most prominent symptoms of this syndrome related to the loss of a significant other and persist for more than one year).[44] Individuals were assigned to six sessions of either a guided mourning or an anti-exposure condition. The guided mourning condition involved exposure to avoided cognitive, affective, and behavioral cues (e.g., writing letters to the decreased, viewing pictures), while the anti-exposure group was encouraged to avoid reminders of the deceased and focus on the future rather than thinking about the past. All participants were assigned tasks between sessions and were encouraged to engage in new, positively reinforcing activities. Interestingly, Sireling *et al*, found that both groups demonstrated improvement on a number of variables with follow-up measured at several points up to nine months post-treatment.[45] Out of 29 outcome variables, the exposure group only performed significantly better than the anti-exposure group on a bereavement-avoidance task as well as on some measures of distress to bereavement cues. Arguably, support and encouragement to engage in new and daily activities are the ingredients that facilitated improvement. Limitations include the assumption that bereaved individuals avoid thought of the deceased as found in the Shear *et al* study,[43] and failure to report modes of death of grieving individuals.

Because the treatment research for traumatic grief is in its infancy, it is not unlike preliminary research bearing on early interventions for trauma, in which major methodological problems limit firm conclusions that can be gleaned from this literature. However, some promising treatment approaches have been described, but more methodologically rigorous tests of these approaches will be required before they can be confidently recommended. Because social support is inversely related to symptoms of traumatic grief,[37] interventions that attempt to mobilize utilization of existing social supports or create mechanisms of support (e.g., support groups of similarly bereaved individuals), may be especially helpful. Exposure-based interventions may be helpful for traumatically bereaved individuals who go to great lengths to avoid thinking about the deceased or encountering reminders of the death. In such instances, exposure might promote some acceptance of the loss, thereby allowing the bereaved individual to cope with the death in a more adaptive fashion and to slowly recover from the intense loneliness and despair that characterizes complicated bereavement. Finally, behavioral activation may help traumatically bereaved individuals to begin to re-engage in meaningful activity and begin to recover from such a tremendous loss. Although these would appear to be reasonable approaches to treating traumatic grief that may ensue following catastrophic event, their applicability to an early intervention context remains untested. Whether brief interventions delivered within a few weeks of a traumatic loss can be developed that are capable of reducing the likelihood of traumatic or complicated grief remains to be seen. Indeed, the timing of interventions with a bereaved population has been noted as a confound in several studies.[46] While some highlight the importance of initially allowing the grieving process to unfold naturally so that individuals can heal with time and independently find sources of support, the paucity of controlled studies limits the ability to draw firm conclusions about intervention timing. The significant challenges inherent in conducting randomized, clinical trials with this population not withstanding, it is clear that more rigorous tests of these approaches are necessary to evaluate the true efficacy of these interventions.

Post-Disaster Early Intervention Practice Guidelines

In light of the aforementioned methodological limitations of the early, trauma intervention and traumatic grief treatment literatures, practice recommendations that can be made at this juncture are necessarily preliminary. Although much empirical work, (dismantling studies in particular) remains to be done, several guiding principles have emerged. These include: (1) refrain from providing formal intervention immediately after trauma; (2) initial risk factor screening and delayed symptom-based screening; (3) empirically informed early intervention for disaster victims; and (4) assessment and treatment of traumatic grief.

Refrain from Providing Formal Intervention Immediately after Trauma

Multiple methodologically sound investigations have failed to document a benefit associated with psychological intervention within a few days of a traumatic event. Because most people exposed to traumatic stressors do not develop chronic psychopathology, intervention efforts that target all survivors represent a remarkably inefficient use of clinical resources, and in instances of mass violence (e.g., the terrorist attacks on the World Trade Center), such efforts simply are not feasible and may be iatrogenic.

This is not to suggest that mental health professionals should be unconcerned with the emotional distress experienced by survivors shortly after a catastrophic event. Although formal, secondary prevention interventions are not recommended in the hours or days immediately fol-

lowing a traumatic event, "psychological first aid" should be considered routinely.[11] Psychological first aid involves the provision of emotional support, information, and attempts to meet pressing practical needs—such as providing contact information for emergency services that may meet the individual's urgent medical, financial, or shelter needs.[11] Receipt of such aid should be entirely voluntary and should be provided only to those who desire such services. There is also evidence that waiting for the bereaved to initiate contact is likely to produce more favorable treatment results.46 Information about the availability of supportive services should be readily available, but vigorous efforts to encourage victims immediately following traumatic exposure to disclose details of the event or their emotional responses to the event are ill-advised and arguably unethical. Psycho-educational materials that describe common sequelae of trauma and grief, and how and where to get help if desired, should be distributed widely. These materials also may include information about the potential benefits of discussing their reactions to the event with trusted friends, family members, or significant others. Materials also might include information about the possible complications that can ensue if victims go to great lengths to avoid trauma-related cues and activities. In short, victims should be given information and support should be available, but professionals must trust victims to make informed decisions about how best to cope with the effects of trauma, and must respect victims' decisions not to utilize therapeutic support that may be available. The availability of such support may be very comforting to victims who elect to utilize it. However, victims should not expect that such support will prevent the development of PTSD and traumatic grief. Instead, psychological first aid merely is the provision of emotional support during a very trying time, and an attempt to meet the most pressing practical needs of the survivors.

Initial Risk Factor Screening and Delayed Symptom-Based Screening

Given that the great majority of those exposed to trauma are anxious, sad, grief-stricken, or otherwise notably upset immediately afterwards, attempts to identify those who are likely to experience protracted difficulties are not likely to be very successful. For those victims who do seek out professional support or services immediately after a traumatic event, it is advisable to conduct screenings to identify those who may be likely to develop PTSD or other chronic difficulties secondary to the trauma. Although symptom-based screening may be impractical within a few days of the event, it may be possible to screen for risk factors known to predict sustained distress. Accordingly, screenings should focus on empirically documented risk factors for the development of chronic post-traumatic difficulties. Such factors include a history of exposure to other traumatic events, pre-traumatic psychological difficulties, inadequate social supports, and exposure to grotesque aspects of the current trauma (e.g., seeing mutilated or dismembered corpses).[47–49] Victims should be informed about the nature of and reasoning behind such questioning prior to screening, and their right to refrain from answering such questions should be respected absolutely.

As mentioned previously, virtually all trauma victims report inordinate distress acutely, but for the vast majority of cases, this distress tends to remit on its own over time. Symptom-based evaluation may be more fruitful after the initial, severe distress of the traumatic event has diminished, at which point many individuals are experiencing a remittance of severe distress. Numerous investigations have documented that significant distress in the weeks following trauma is a significant predictor of more sustained or enduring distress,[50–51] but the timing of this symptom-based screening is critical. Significant levels of distress within hours or days of the event is commonplace,[52] limiting the accuracy of symptom-based prediction of chronic distress. Those who continue to exhibit or report profound distress weeks after the event, however, are especially likely to develop more chronic forms of psychopathology, so symptoms reported during this period afford the more accurate prediction of maladaptive outcomes. Although more research is needed to identify the optimal time frame for symptom-based evaluations following trauma, we recommend that such assessments should occur no sooner than one week after the traumatic event. Earlier assessments may be perceived as intrusive, and are likely to produce an excessive number of false positives.

Empirically Informed Early Intervention for Disaster Victims

To date, early intervention efforts consistently have been disappointing; yet, it is counterintuitive to wait for chronic psychopathology to develop before beginning treatment. Failed early intervention efforts have been fairly uniform in terms of content and timing; however, introducing the possibility that departures from the single-session, debriefing approach may be worthwhile. When individuals who are at risk for chronic difficulties and who have expressed an interest in receiving professional care and support have been identified, we recommend more formalized interventions that are informed by the recently-developed, empirically-supported treatments. Specifically, although more research is needed, brief multi-session behavioral interventions delivered between several days and a few weeks after the trauma have been associated with improved outcomes. Specifically, interventions that combine psychoeducation, in vivo and imaginal exposure, and anxiety management techniques over the course of a few sessions are most promising, as these are the common elements of seemingly effective early interventions for trauma victims that have been developed by Foa *et al* and Bryant and colleagues.[53,54] Psycho-education should focus on maladaptive strategies that trauma victims often call upon in an effort to manage their distress (e.g., avoidance of trauma cues), and the manner by which such strategies ultimately can prolong trauma-related distress. Early intervention efforts also should be structured to encourage home-based therapeu-

tic exercises (e.g., in vivo and imaginal exposure) between sessions in order to reduce reliance on maladaptive distress-management strategies, to accelerate therapeutic effects, and to promote the generalization of treatment gains.

The interventions developed by Foa *et al* and Bryant and colleagues differ from traditional debriefing-based interventions by virtue of sustained contact with victims over the course of a few weeks.[53,54] It may be that one session is simply insufficient to adequately resolve the significant distress associated with disasters and other large-scale traumas. These cognitive-behavioral interventions also differ from traditional early intervention efforts (e.g., CISD) by virtue of timing. Whereas PD proponents insist that debriefing should occur as soon as practically possible after traumatic exposure (i.e., within a few days), interventions used by both Foa *et al*[53] and Bryant *et al*[54] were implemented an average of 10 or more days following traumatic exposure.[53,54] It may be that trauma victims are too overwhelmed with grief or anxiety or are too focused on more pressing practical concerns (e.g., shelter) to fully attend to, process, and benefit from psychological interventions in the immediate aftermath of trauma.

Assessment and Treatment of Traumatic Grief

Finally, clinicians should attend to the unique needs of those who have lost a close friend or relative as a result of the traumatic event. Such attention may include exposure-based interventions for those who are having difficulty acknowledging the loss or who are otherwise extremely avoidant of reminders of the deceased. Mobilization of social support seems to be particularly important in preventing protracted or otherwise complicated grief responses. Finally, behavioral activation may be important in helping bereaved disaster victims begin to resume meaningful activity and cope with the loss in an adaptive fashion. Although a great deal more research is needed to inform the early treatment of traumatic grief, bereavement issues and complications have been neglected for far too long in the early trauma intervention literature. One-size-fits-all approaches to post-traumatic assessment and intervention largely have failed to adequately address the needs of recent trauma victims. An exclusive focus on personal endangerment, anxiety, and PTSD will continue to fall short of addressing the complex and often idiosyncratic needs of recent trauma victims.

Conclusions

In sum, although psychological first aid or basic support should be widely available immediately after trauma, formalized psychological interventions should be voluntary and should be provided only to individuals who are particularly likely to experience sustained distress—either by virtue of exhibiting empirically-documented risk factors or as evidenced by pronounced distress that does not begin to remit within a couple of weeks of traumatic exposure. Multiple sessions may be required to reduce the risk for the development of chronic difficulties among those individuals who are truly at risk. Although the optimal timing remains to be determined empirically, formal treatments delivered within a few days of traumatic exposure may not be especially helpful as victims may be too shocked or incapacitated to benefit fully. Finally, researchers should attend to the full complexity of symptoms experienced by disaster victims including traumatic grief responses that are likely to be prevalent in a disaster context. More diverse treatment development efforts are needed and greater attention to methodology is warranted in testing novel treatments. It may be some time before definitive recommendations for treating high-risk victims soon after traumatic exposure can be made, but continued reliance on inert, single-session debriefing approaches is no longer defensible in light of the empirical literature.

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